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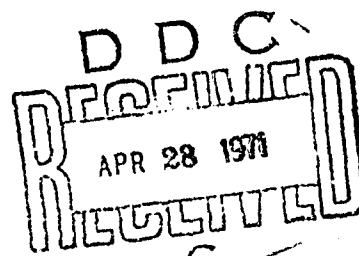
# BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS

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<p>This bibliography of Soviet publications on lasers covers the period 1969-1970. Approximately 1500 articles are cited. This output is clear evidence of increased attention to advanced advanced development in such areas as holography, beam-target interactions, high-temperature plasma generation and chemical lasers.</p>			

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BIBLIOGRAPHY OF SOVIET  
LASER DEVELOPMENTS

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## Introduction

This bibliography has been compiled by the staff of Informatics Tisco, Inc. in response to a continuing contractual assignment to monitor current Soviet-bloc developments in the quantum electronics field. In view of the increasing volume of Soviet publication on this subject, we have decided to limit source coverage primarily to the approximately 30 periodicals which are known to yield the broadest and most advanced information on laser technology. The sheer bulk of data retrieved from the periodic literature alone can be seen to warrant such a limitation. It is our further intent to publish a companion bibliography covering laser developments in recent nonperiodic literature, including irregular serials, monographs, conference proceedings, and the like. In general, input from the popular or semi-popular press has been omitted, since their treatment is usually too broad or trivial to be useful in the present task.

The coverage has been concentrated on the 1969-1970 interval primarily because to the writer's knowledge, no similar effort in comprehensive exploitation of Soviet laser technology has been made during this period; and secondly, because the publication rate of Soviet research and development on lasers has shown a sharp and continuing increase in the last two years. This output is clear evidence of increased attention to advanced developments in such areas as holography, beam-target interactions, high-temperature plasma generation, chemical lasers, and other subjects of current importance in laser research.

For convenience, the entries have been divided into the two main sections of basic research and applications. Within each section they have been further segregated in a manner felt to be most useful to those interested in particular aspects of the state-of-the-art. It will also be noted that a considerable portion of the entries are not specifically identified with lasers; however, such material has been included because of its possible pertinence to laser technology in the broad sense. Examples of such peripheral subjects include experimental and theoretical optics, propagation of optical beams in various media, and detection and measurement of optical signals. Practical applications of lasers as industrial, laboratory or biomedical tools have been included for completeness when found in the cited literature, but no exhaustive attempt has been made to cover the latter subjects, since they are also considered as secondary to the main purpose.

For convenience in retrieval, the bibliographic style used by the Library of Congress has been adhered to where feasible.

Finally, acknowledgement is due to the private consultant effort of Mr. Yuri Ksander, who supplied a substantial number of the bibliographic entries and also is responsible for organizing the material in the detailed manner presented herein.

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## I. BASIC RESEARCH

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2. Molecular Beam

a. CO<sub>2</sub> Mixtures

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J. NONLINEAR OPTICS

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### III. MAJOR SOURCES REVIEWED

Akademiya nauk SSSR. Doklady

Akademiya nauk SSSR. Izvestiya. Fizika atmosfery i okeana

Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya

Biofizika

Ekspperimental'naya khirurgiya i anesteziologiya

Fizika goreniya i vzryva

Fizika i khimiya obrabotki materialov

Fizika i tekhnika poluprovodnikov

Fizika tverdogo tela

Izvestiya vysshikh uchebnykh zavedeniy. Fizika

Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye

Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika

Izvestiya vysshikh uchebnykh zavedeniy. Radiotekhnika

Geomagnetizm i aeronomiya

Kinetika i kataliz

Kristallografiya

Mekhanika polimerov

Mekhanika tverdogo tela

Moskovskiy universitet. Vestnik. Seriya III. Fizika, astronomiya

Neorganicheskiye materialy

Oftal'mologicheskiy zhurnal

Optiko-mekhanicheskaya promyshlennost'

Optika i spektroskopiya  
Prikladnaya matematika i mekhanika  
Pribory i tekhnika eksperimenta  
Problemy peredachi informatsii  
Radiotekhnika i elektronika  
Teplofizika vysokikh temperatur  
Ukrainskiy fizicheskiy zhurnal  
Uspekhi fizicheskikh nauk  
Vestnik oftal'mologii  
Zhurnal eksperimental'noy i teoreticheskoy fiziki  
Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v  
redaktsiyu  
Zhurnal nauchnoy i prikladnoy fotografii i kinematografii  
Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki  
Zhurnal prikladnoy spektroskopii  
Zhurnal tekhnicheskoy fiziki  
Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki